

# Araldite<sup>®</sup> CY 5825

# Aradur<sup>®</sup> HY 5825

## High Temperature Electrical Insulation System

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**General**

Araldite CY 5825 with Aradur HY 5825 is a heat-curing, two-component epoxy system designed for high temperature applications. The resin component is based on multifunctional (higher functionality) epoxy resin and the hardener is a preaccelerated anhydride. This system was especially developed for high temperature electrical insulation applications. Due to higher functionality, the gamma radiation resistance is superior to that of standard Bisphenol-A based epoxy systems. This system can be used for many applications such as high temperature slot insulation for alternators, impregnation of transformer coils, electrical high temperature filament wound products, etc.

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**Applications**

Heat curing, two component liquid insulation system with low viscosity  
Long working life at processing temperatures  
Very high glass transition temperature (230°C – 240°C)  
Good dimensional stability  
Very good mechanical properties  
Excellent electrical properties

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**Benefits**

High temperature applications  
Better gamma radiation resistance than BisA system

Typical Properties*	<b>Araldite CY 5825</b>	
	Viscosity @ 25°C, cPs	30,000 – 40,000
	Specific gravity, g/cm <sup>3</sup>	1.17 – 1.23
	As supplied form	Brown Liquid
	Flash Point, Closed Cup, °C	> 200
	<b>Aradur HY 5825</b>	
	Viscosity @ 25°C, cPs	400 – 500
	Specific gravity, g/cm <sup>3</sup>	1.20 – 1.26
	As supplied form	Dark Amber to Brown Liquid
	Flash Point, Closed Cup, °C	> 200
	<b>Mixed</b>	
	Viscosity @ 25°C, cPs	3,500 – 4,200
	Specific gravity, g/cm <sup>3</sup>	1.18 – 1.20

\* Typical properties are based on Huntsman's test methods. Copies are available upon request.

**Packaging & Storage**

**Araldite CY 5825:** Store at 70-90°F in a dry and well-sealed condition, if possible, in original containers. If only part of container is used, re-close to prevent contamination.

**Aradur HY 5825:** Store at 70-90°F in a dry well-sealed condition, if possible in original containers. This product is moisture sensitive and packaged under a blanket of dry nitrogen. Maintain factory seal. If only part of container is used, blanket with dry nitrogen and tightly re-seal.

Under these conditions their shelf lives will be one year from date of shipping. Contact Customer Service for packaging information.

### Mix ratios

	Parts by weight
Araldite® CY 5825	100
Aradur® HY 5825	121

### Processing data

(average values)

Cure at 150°C for 1 hour followed by post-curing as per schedule below to follow immediately

Post cure: 2 hours @ 200°C + 2 hours @ 220°C + 4 hours @ 250°C

Gel time @ 90°C	3.5 – 4.0 hours
@ 120°C	60 – 80 min
@ 150°C	13 – 17 min

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<b>Mechanical and Physical Properties</b>	Density, g/cm <sup>3</sup>	1.18 – 1.20
	Hardness, Shore D	92 – 96
	Tensile strength at break, psi	7,000 – 9,000
	Tg, °C	230 – 240
	Water absorption by weight, %	0.02 – 0.03
	Flexural strength, psi	18,000–20,000
	Tensile strength, psi	500,000 – 550,000
	Elongation at break, %	1.0 - 1.5
	E modulus from tensile test, psi	1.40 - 1.48 x 10 <sup>6</sup>
	Flexural strength, psi	17,000 – 20,000
	Surface strain, %	1.8 - 2.0
	Coefficient of linear thermal expansion	55 – 60 x 10 <sup>-6</sup>
	Thermal conductivity, W/mK	0.20 – 0.23

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<b>Electrical Properties (typical values)</b>	Dielectric constant, 60 Hz	
	@ 25°C	4.9
	@ 50°C	5.0
	@ 100°C	5.0
	@ 150°C	5.0
	@ 200°C	5.2
	@ 220°C	5.3
	Dissipation factor, 60 Hz	
	@ 25°C	0.004
	@ 50°C	0.005
	@ 100°C	0.005
	@ 150°C	0.010
	@ 200°C	0.037
	@ 220°C	0.078
	Volume resistivity	
	@ 25°C	3.8 x 10 <sup>15</sup>
	@ 50°C	3.2 x 10 <sup>15</sup>
	@ 100°C	1.7 x 10 <sup>14</sup>
	@ 150°C	9.1 x 10 <sup>12</sup>
	@ 200°C	5.0 x 10 <sup>11</sup>
	@ 220°C	2.1 x 10 <sup>11</sup>
Dielectric strength		
V/mil @ 3 mm	650 - 750	

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**Handling/Safety  
Precautions**

Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

**Araldite CY 5825**

**Warning!** Causes skin and eye irritation. May cause allergic skin reaction. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.

**Aradur HY 5825**

**Warning!** Corrosive – causes eye burns. Causes skin and respiratory irritation. May cause allergic skin reaction. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

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**First Aid****In case of contact:**

**Eyes:** Flush eyes with plenty of water for 15 minutes and get prompt medical attention.

**Skin:** Wash skin thoroughly with mild soap and water; remove contaminated clothing before reuse. Discard contaminated shoes and other articles made of leather.

**Inhalation:** Remove person to fresh air.

**Ingestion:** **Do not** induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

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**Important**

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**Note**

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**Huntsman Advanced Materials  
Americas Inc.**  
281 Fields Lane  
Brewster, New York 10509  
(914) 785-3000  
Fax: (914) 785-3472

Araldite CY 5825  
with Aradur HY 5825  
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